steak. The bull beat it for about half a block after the pal, with a couple of shooflies tryin' to tag him. Pick was after him too.

"They cornered him about second base. Pick rough housed him all over his tenderloin, and the bull called for time. He needed it! It was coming to him. He was bleedin' on both sides. But the horses couldn't see him. This got the bull crazy. He made a swing at Pick's horse that would a got him thirty days from Silk O'Laughlin; but one of the shooflies was on the job, and rousted him with the red rag. Take it from me you never saw anybody get away from the plate quicker than them shooflies. Talk about George Brown or Harry Bay! Why, one of these fella's would stand right in front of the bull until he got a foot away, an' him comin' like one of Waddell's shoots, an' then he'd swat him in the eye and side step. They had that bull kidded so that he couldn't hit anything, curve or fast.

"'This is stoopid,' said the shoe man. He was yellin' with the rest of the fans, 'Bandy Riller! Bandy Riller!'

"With that Pick O'Dorr and his pal was taken out of the box, and nobody paid any attention to them.

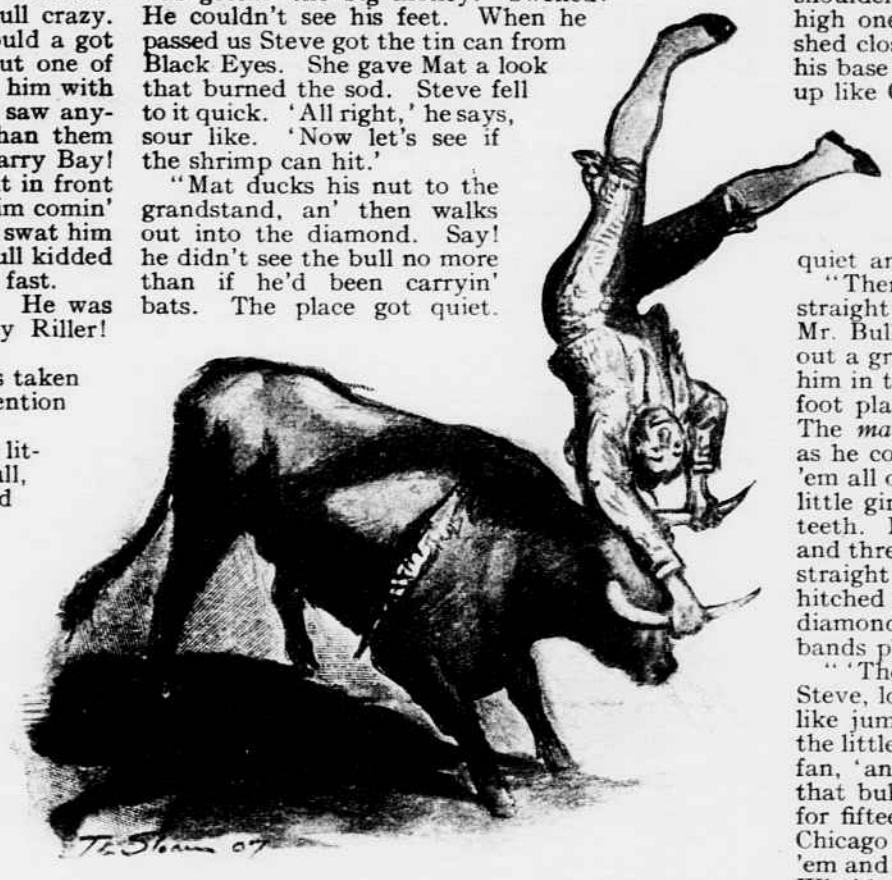
"The Bandy Rillers was each holdin' two little spears. One walked right up to the bull, who was standing in the center of the field lickin' the blood off his side an' wonderin' what was comin' next. Bull didn't lose any time sizin' up Bandy's slants. He swung for a homer; but—Holy Moses!—he fanned the air. Bandy stood until he was a foot off, and then plants one o' them sharp sticks on each side o' his neck an' just made a get-away. The spears had fireworks on, an' there was a young Fourth o' July. When the bull smelt his own steak a burnin' it made him hot. The louder he bellered, the more the fans rooted. Steve an' me wasn't rootin' any. But when the bull got a goin' for Bandy, then we cut loose.

"'Get to him!' yelps Steve. 'Soak him!' says I. And he had him dead to rights, on the run, pretty near by the pants. 'Hook him!' yells Steve. 'Put it on him!' But w'at's the use? One of them shooflies gets on the line, an' bull starts back for first base, again leavin' Bandy Riller to hop the fence. You see, these bull fighters all had their signals, an' nobody made any mistakes. But the bull had no teamwork. It was every man for himself. Jumping for a shoofly, he gets two more spikes in his neck. The airship now! He didn't know where he was runnin'. You could see that all he wanted was a trainer to fix up them cuts. He was sufferin' an' in pain; but he hadn't a friend. They was all laughin' an' guyin' him an' callin' for Mat O'Dorr. From the way these people carried on, you'd a thought that the bull was laying down on his job.

"'Three minutes left for this one!' says the drummer, lookin' at his watch. 'The innin's only last fifteen minutes.'

"Well, over the fence comes Mat at a vault, still a luggin' that flash sofa cover an' his sword. He dropped on the ground like a feather weight; but the way he walked across the field you could tell he was gettin' the big money. Swelled? He couldn't see his feet. When he passed us Steve got the tin can from Black Eyes. She gave Mat a look that burned the sod. Steve fell to it quick. 'All right,' he says, sour like. 'Now let's see if the shrimp can hit.'

"Mat ducks his nut to the grandstand, an' then walks out into the diamond. Say! he didn't see the bull no more than if he'd been carryin' bats. The place got quiet.



"Bandy Riller Was a Terrier."

Mr. Bull seemed kinder sore cause Mat didn't take no notice, an' snorted around like's if to say, 'Put 'em over the base—the best you got—I c'n hit everyone of 'em!' But Mat jest kept a strollin' around till he was about fifteen feet off, then he waved his hand to the shooflies, an' they all beat it to the dressin' room.

"'Hully Gee! He wants to win his own game!' says we to the drummer. An' maybe the fans didn't yell when they see the infield an' outfield an' catcher all skidoo, leavin' Mat to put three good ones over the plate alone.

"That's what he had to do. He minded you of Smiling Al Orth, waitin' there studyin' the bull, holding the sword just about level with his shoulder as if he was going to shoot a high one inside. He waved that red green silk porteer slow with the other hand. The bull pawed up a little dirt an' got a good grip for his hind legs; for he knowed it was his last time at bat. But what he was looking for you can search my locker. Mat tipped off his signs plain enough. With that sword above his shoulder anybody could see he was goin' to start a high one. But that bush leaguer keeps his woodshed close to the ground, scatterin' the claret along his base lines, his eyes red, an' his back all humped up like George Stone. And then what does he do? Why, swings for a low one! If he'd reared up he could a nailed the guy. Nope! He tries to lift a fly, and Mat just dropped that sofa cover over his lamps like one of these cameo lads when he says, 'One moment, little boy; keep quiet an' look at the birdy.'

"There was nothing more to it. Mat put a straight one over his plate; and it must have touched Mr. Bull's heart, for he drops to his knees and lets out a groan same as a hitter when an inshoot hooks him in the stomach. He took the count, with Mat's foot planted on his face. The rooters went crazy. The *manteezers* were all giving Mat the high sign as he comes in front o' the grandstand. Mat looks 'em all over careless and then puts a liner at Steve's little girl, and she gives him back the eyes and the teeth. Mat took off his lid, and Grandy loosened up and threw him a box of cigarettes. Mat put another straight jab to Black Eyes' heart. The mules hitched on to old Bill Bull and hiked him over the diamond—to the hash house, I guess. Then the bands played.

"'There's just one thing I want to ask,' says Steve, looking disgusted at the crowd all a-goin' on like jumping jacks an' not payin' any attention to the little dame, who bounced him a couple over her fan, 'an' that's why the Sam Hill doesn't Mat kill that bull right off the reel instead of stallin' round for fifteen minutes? Did y' ever see them do it in Chicago? Just three minutes to kill 'em and skin 'em and cut 'em up! And it's a mighty sight cleaner. Who'd want to eat that bull now, after Pick and Mat and all these guys have been spiking him?'

"'You haven't got the right angle,' says the drummer, giving Steve the fatherly grin. 'Mat's no butcher. He'll get a thousand dollars or maybe fifteen hundred for his work this afternoon. On the level! Of course he has to pay the team out o' that, and all the expenses. Don't y' savvy? These men are riskin' their lives; for that bull is starved for two days before he comes into the ring. It ain't like killing a common steer. That was a bum bull we just seen. If the next one is hungry enough he's liable to eat 'em alive Bosco.'

"'Oh, he is, is he?' says Steve, plenty loud, an' stopping a slow one that the girl rolled at him from back of her fan. 'Well, I hope he takes a bite out of Mat—the stiff!'

"At that the bugle blows again, and say!—talk

Continued on page 14

MAKING CLOTHING FROM TREES

By CHARLES R. DODGE

Textile Fiber Expert

THE evolution of clothing and of costume, in the history of the human race, is an interesting study. We know that prehistoric man was clothed with the skins of animals slaughtered for food; but regarding the precise period when fibers were first employed for clothing, there are no records. Over four thousand years ago the Egyptians produced linen of surprising beauty and fineness, and it is a fact that the Swiss lake dwellers in the Stone Age in Europe (seven to eleven thousand years ago) spun and wove flax into the rude semblance of fabrics, fragments of which may be seen in the museums of to-day.

Considering the great antiquity of the art of weaving vegetable filaments into cloth, it is somewhat remarkable that in many portions of the world at the present time there are races of men who know nothing of the arts of spinning and weaving, or at least do not practise them; for their rude costumes are made from natural cloth taken from the inner bark of certain trees.

Probably the best known of these natural tissues is the famous tapa cloth of the Polynesian Islands, which is derived from the Broussonetia, or paper mulberry, of China, Japan, and Eastern countries, and found throughout the islands of the Pacific. Before Hawaii was swept with the wave of civilization, men and women alike were dressed in this natural bark cloth, tapa or kapa. The material is derived from the inner bark of the tree, and after being torn off in strips was scraped with shells, and beaten with a hardwood mallet until it resembled a soft, flexible paper. The individual strips were united by overlapping the edges and beating the fibers together, until large pieces of the tissue were formed.

How They Dressed

THE dress of the women consisted of the *pa-u*, or wrapper, composed of five thicknesses of tapa about four yards in length by three in width, passed several times round the waist, and extending below the knee. The dress of the men was the *malo*, or girdle, a foot or more in width, and several yards long. A *kihei*, or mantle, six feet square, was sometimes worn by both sexes, though in different fashion. The women used it as a long shawl, while the men wore it as an outer or upper garment, by tying the two corners on one side together, and putting the head through the opening thus made, the knot resting upon one shoulder.

These natural cloths were sometimes bleached to snowy whiteness, or were dyed in colors, and even printed or ornamented, usually in checks or squares. The Tahitian women beat the fibrous bark into strips, oftentimes measuring thirty to forty feet in length. In the museum of the Royal Kew Gardens, near London, I have seen a fragment of tapa cloth which formed part of a piece made by order of the King of the Friendly Islands, which was one hundred and twenty feet wide and two miles long. No mean skill was required in the preparation of this cloth, in order that it should be of uniform thickness and texture throughout. The mallet used was fashioned with grooved sides, graduated from the size of coarse pack thread to that of sewing silk. The work was begun with the coarse face of the mallet, the tissue spreading very rapidly under its blows, and was finished with the finest face. When a break occurred a piece of bark of the proper size was laid on with a glutinous substance, and by beating all evidences of the damage soon disappeared. Some of these tapa cloths are as fine and white as muslin.

The bark cloth produced by the natives of the Uganda country of Africa is prepared in a similar manner from the bark of a leguminous tree known as the Brachystegia; but in its preparation the fibrous layers are first boiled. These African natural tissues are used by the natives not only for clothing, but for their canoes, the roofing of their huts, for kilts, boxes, and cordage, and for many other articles useful in their domestic economy.

These natural cloths are likewise worn by native tribes in many portions of tropical South America. They are derived from several species of forest trees belonging to the genus Couratari. This bark comes nearer to yielding natural cloth than that from the species previously mentioned, as it requires little further preparation, after stripping it from the tree, than washing and pounding to separate the parenchyma from the fiber. It bleaches readily, and is as light and flexible as woven cloth. These tissues are known by different names in different localities, but *damajuhato* and *tahuari* are the most common. They are extensively employed along the Amazon and its tributaries, in Peru, Venezuela, and French Guiana, and are in common use not only as clothing, but for blankets, carpets, mats, etc. The tissue is also employed in place of paper for wrapping cigarettes.

Clothes of Gaudy Colors

THE women of the tribe of the Charruas of Colombia fashion the *tataja*, as it is called, into a garment known as the *furquina*, which is suspended from the shoulders by strands of palm fiber. Sometimes these garments are dyed red. Some of the Indians of Peru and Bolivia fashion the tissue into shirts dyed in different colors.

We now come to a more remarkable tree which yields not only natural cloth, but ready made clothing. This is the "deadly upas tree" (deadly only in name), several forms of which abound in India, Ceylon, and Burma. In portions of India the inner bark is used for native cordage, matting, and sacking, both clothing and natural sacks being produced from it. In fashioning garments the small branches supply the legs of trousers and arms of coats, the larger ones forming the bodies. Sacks are made by leaving a disk of wood at the bottom, or by sewing across the bottom with thread in the usual way.

Not only are the natural textures, which can be made into clothing, produced from trees, but several species of trees yield in their bark natural lace. The lacebark tree of the West Indies is the best known example. Its bark is made up of many layers of a delicate tissue, which, when carefully stretched in the hands, shows a pentagonal and hexagonal mesh, in every respect resembling lace. From these lacelike natural tissues many delicate and beautiful articles of adornment may be fashioned. It is recorded that Charles II. received as a present from the Governor of Jamaica a cravat, frill, and pair of ruffles made from this lace. An Australian tree also yields lacebark, and other species are known in different portions of the world from which lacelike tissues may be obtained.